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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/737,338	12/16/2003	Patrick Henry Corcoran	FA1084 US NA	6146

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WILMINGTON, DE 19805

EXAMINER

TRAN, THAO T

ART UNIT PAPER NUMBER

1711

DATE MAILED: 08/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/737,338

Applicant(s)

CORCORAN ET AL.

Examiner

Thao T. Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 31 May 2006.  
2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-14, 16 and 18-26 is/are rejected.  
7) ☒ Claim(s) 15 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5/31/2006 has been entered.
2. Claims 1-16, 18-26 are currently pending in this application. Claim 17 has been canceled. Claims 1 and 25 have been amended.
3. In view of the prior Office action, the prior art rejections of the claims have been withdrawn due to the Amendments made thereto.
4. New rejections are issued as follows.

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-4, 11-12, 16-20, and 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Primeaux, II et al. (US Pat. 6,013,755) in view of Wolf.

Primeaux 1755 discloses coatings comprising an aspartic ester, polyoxyalkyleneamines, and isocyanates (abstract). The aspartic ester compounds fit the applicant's formula, where

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aliphatic groups including diaminodicyclohexyl methane are combined with maleic or fumaric acid esters including dialkyl maleates (col. 2 line 38-col. 3 line 15). Isocyanates comprise aliphatic or aromatic isocyanates including hexamethylene diisocyanate, trimerized hexamethylene diisocyanate, and isophorone diisocyanate (col. 4 lines 15-40). The reference teaches coating the two-part compositions after mixing to automotive substrates (col. 9 lines 36-58; col. 10 lines 3-12).

Additives, preferably a mixture of three components, are included with the coating compositions (col. 7 lines 49-66). The three components include sterically hindered amines (col. 8 lines 3-12), UV absorbers (col. 8 lines 13-20), and disubstituted phenol antioxidants (col. 8 lines 21-29). A most preferred additive composition contains 40% by weight UV stabilizer, 40% by weight UV absorber, and 20% by weight antioxidant (col. 7 line 58-col. 8 line 2). Since the additive is used in an amount of up to 5% by weight of the polyetheramine (col. 8 lines 43-49) and because the examples show the use of about 26% by weight of the polyetheramine components, it is the examiner's position that one skilled in the art would envision the use of about 0.4% by weight of the UV stabilizer and UV absorber compounds and about 0.2% by weight of the antioxidant compound.

Primeaux '755 teaches the use of antioxidants but fails to teach the use of hydroperoxide decomposing antioxidants.

Wolf teaches that secondary antioxidants, which decompose hydroperoxide, are useful during processing for improved long-term stabilization under severe thermal conditions (section 2.2). Thus, it would have been prima facie obvious to include hydroperoxide decomposers in the

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coatings of Primeaux in any amount necessary to improve the long-term stabilization under severe thermal conditions, since the coatings are intended for weather-resistant coatings.

7. Claims 1-7, 9-12, 16-20, and 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Primeaux, II et al. (US Pat. 6,299,736) in view of Wolf.

Primeaux '736 discloses coatings comprising an aspartic ester, polyoxyalkyleneamines, and isocyanates (abstract). The aspartic ester compounds fit the applicant's formula, where aliphatic groups including diaminodicyclohexyl methane Primeaux '736 discloses coatings comprising an aspartic ester, are combined with maleic or fumaric acid esters including dialkyl maleates (col. 2 line 64-col. 3 line 41). Isocyanates comprise aliphatic or aromatic isocyanates including hexamethylene diisocyanate, trimerized hexamethylene diisocyanate, and isophorone diisocyanate (col. 3 lines 63; col. 8 lines 6-16). The reference teaches coating the two-part compositions after mixing to automotive substrates (col. 13 lines 22-43, lines 55-64).

Additives, preferably a mixture of three components, are included with the coating compositions (col. 11 lines 35-55). The three components include sterically hindered amines (col. 11 lines 56-65), UV absorbers (col. 11 line 66-col. 12 line 6), and disubstituted phenol antioxidants (col. 12 lines 7-14). A most preferred additive composition contains 40% by weight UV stabilizer, 40% by weight UV absorber, and 20% by weight antioxidant. Since the additive is used in an amount of up to 5% by weight of the polyetheramine (col. 12 lines 28-34) and because the examples show the use of about 26% by weight of the polyetheramine components, it is the examiner's position that one skilled in the art would envision the use of about 0.4% by weight of the UV stabilizer and UV absorber compounds and about 0.2% by weight of the antioxidant compound.

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Regarding the acrylic component, Primeaux '736 teaches the addition of various amounts of hydroxy-functional acrylic oligomers and polymers having molecular weights (Mn) of 800-500,000 (col. 5 line 36-col. 6 line 4). Copolymers include styrene, alkyl (meth)acrylate, (meth)acrylonitrile, and hydroxy-functional (meth)acrylate monomers. The compounds have hydroxyl group contents of 0.1-12% by weight.

Primeaux '736 teaches the use of antioxidants, but fails to teach the use of hydroperoxide decomposing antioxidants.

Wolf teaches that secondary antioxidants, which decompose hydroperoxide, are useful during processing for improved long-term stabilization under severe thermal conditions (section 2.2). Thus, it would have been prima facie obvious to include hydroperoxide decomposers in the coatings of Primeaux in any amount necessary to improve the long-term stabilization under severe thermal conditions, since the coatings are intended for weather-resistant coatings.

8. Claims 5-7 and 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Primeaux '755 and Wolf, further in view of Primeaux '736.

Primeaux '755 and Wolf apply as above, failing to mention the use of acrylic components.

Primeaux '736 teaches the addition of various amounts of hydroxy-functional acrylic oligomers and polymers having molecular weights (Mn) of 800-50,000 (col. 5 line 36-col. 6 line 4). Copolymers include styrene, alkyl (meth)acrylate, (meth)acrylonitrile, and hydroxy-functional (meth)acrylate monomers. The compounds have hydroxyl group contents of 0.1-12% by weight and are shown to enhance the elasticity of the coatings (col. 6 lines 42-51).

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Thus, it would have been prima facie obvious to include the acrylic components of the '736 invention into the coatings of the '755 combination to enhance the elasticity of the coatings.

9. Claims 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Primeaux '736 and Wolf in view of Huynh-Ba.

Primeaux '736 and Wolf apply as above, teaching coatings with polyoxyalkyleneamines, isocyanates, and optional polyacrylic polyols but failing to teach the specified polyacrylic component.

Huynh-Ba teaches coatings for automotive finishing comprising polyacrylic polyols that react with polyisocyanates to form a quick-cure coating having a dust-free, water-resistant, and sandable surface (abstract; (0015, 0074)). Preferred acrylic polymers for the invention are copolymers of styrene, isobornyl methacrylate, ethylhexyl methacrylate, and hydroxyethyl methacrylate (0024-0025).

It is the examiner's position that it would have been prima facie obvious to include the preferred polyacrylic polyols of Huynh-Ba's invention in the Primeaux coatings to improve the water resistance, cure time, and post-processing of the coatings.

10. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over either Primeaux '755 or Primeaux '736 and Wolf, further in view of Zweiner et al. Zweiner et al. (US 5,126,170) can be found on the applicant's Form PTO-1449.

The Primeaux combinations apply as above, failing to mention the use of polyester polyols in the coatings.

Zweiner teaches similar coating compositions comprising polyisocyanates and polyaspartates (abstract), where additional isocyanate-reactive components may be included (col.

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5 lines 2-20). The examples show small amounts of the use of polyacrylate/polyester polyol blends and of polyester polyols in the polyaspartate component of the coatings. When examples 14, 18, and 20 are compared with examples 3-5, it appears that the components with polyester polyols have shorter sand dry times. All compositions are suitable for forming coatings for automotive applications.

It is the examiner's position that it would have been prima facie obvious to include any amount of polyester polyol in the coatings of the Primeaux combination to form suitable coatings with shorter sand dry times.

11. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Primeaux '755 or Primeaux'736 and Wolf, further in view of Schmitt et al.

The Primeaux combinations apply as above, teaching the use of isocyanate prepolymers but failing to mention the use of the specified urethane oligomer.

Schmitt teaches aqueous dispersions of polyureas, where urethane oligomers made from dimethylolpropionic acid, a monohydric polyether alcohol, and a combination of diisocyanates are reacted with polyaspartates (examples). The reference teaches that the inclusion of carboxylic acid groups and terminal polyether groups serve to improve the stability of the polyureas in water (col. 7 lines 16-31; col. 8 lines 12-39; col. 8 line 66-col. 9 line 23).

Thus, it is the examiner's position that it would have been prima facie obvious to use the urethane oligomers of Schmitt's invention in the coatings of Primeaux to improve the stability of the coatings in water.



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12. Claims 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Primeaux '755 or Primeaux '736 and Wolf, further in view of Cai et al. Cai et al. (US 5,591,807) can be found on the applicant's Form PTO-1449.

The Primeaux combinations apply as above, teaching the use of the coatings as paints or coatings for automotive applications but failing to specify coating structures including primers, basecoats, and clearcoats.

Cai teaches coating compositions comprising polyisocyanates and polyaspartic esters (abstract), where the coatings are applied as pigmented basecoats and/or clearcoats on automotive substrates and cured (col. 6 lines 24-64). Multiple layers of either coating can be used, providing a pigmented primer layer and a pigmented basecoat layer.

Thus, it is the examiner's position that it would have been prima facie obvious to form the claimed coating articles and perform the claimed process by conventional methods to form suitable automotive paint articles having the improved properties of the Primeaux coatings.

#### ***Allowable Subject Matter***

13. Claim 15 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

14. The following is a statement of reasons for the indication of allowable subject matter: The closest prior art, Primeaux, 11 et al. (US 6,399,736), discloses coatings comprising an aspartic ester, polyoxyalkyleneamines, isocyanates, and light stabilizing additives. Although the reference indicates the use of polyisocyanate prepolymers, the reference does not teach the

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addition of the specified oligomer of claim 15. It is the examiner's position that the use of such an oligomer in the claimed coating composition would provide a novel and unobvious step over the prior art.

### ***Response to Arguments***

15. Applicant's arguments with respect to the 102 rejections of the claims have been considered but are moot in view of the new ground(s) of rejection.

16. Applicants contend that Wolf teaches the use of a combination of the primary and secondary antioxidants, but does not teach the use of the hydroperoxide decomposers alone. This contention is correct. However, in this case, Wolf is used to illustrate that the use of a hydroperoxide decomposer has been taught in the prior art. Since the instant specification does disclose the use of the antioxidants whether in alternative or in combination, what is taught by Wolf does read on the presently claimed invention.

### ***Contact Information***

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thao T. Tran whose telephone number is 571-272-1080. The examiner can normally be reached on Monday-Friday, from 9:00 a.m. - 5:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Thao T. Tran  
Primary Examiner  
Art Unit 1711

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August 7, 2006